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BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE MONTH OF MARCH, 1934.

HAVRE:

With an average temperature of 30° the month was about 3° warmer than normal. A limited amount of surface cultivation and some plowing has been done since March 12. Because of light snows and damp weather, field work has not been general in this part of the State. Native grass and lawns show some sign of green. Crested wheatgrass has made some growth but is not as far along compared to other grasses as it usually is. Winter grains show some recent improvement. Winter wheat seemed to be dying about 10 days ago, but snows and damp weather have started some growth. C.W.A. workers continued until March 31. Their activities were largely wrecking some of the old buildings, cleaning grounds, repairing dwellings, and partially completing a shed for calf feeding work. Livestock, generally, are in fair shape. Feed supplies are a little low, being about exhausted in some localities: Conditions now are very favorable for early grass.

Maximum temperature, 66°; minimum, -8°; precipitation, 0.61 inch.
Minimum temperature for the winter, -18°, December 24.

JUDITH BASIN:

Weather during March was favorable for winter grains, and their condition is above average throughout this section. Even the late seedings made in stubble or on poorly prepared lands have survived the winter with good stands. Several light snows and a heavy fall on March 27-28 have supplied needed moisture. The snow melted within a short time after it fell, and the resulting moisture was readily absorbed by the soil. Spring plowing for spring grains and potatoes was completed during the month. Seed bed preparation work will be resumed as soon as the soil dries again. Maximum temperature, 65°; minimum, 6°; precipitation, 0.93 inch.

HUNTLEY:

March, as a whole, was a month of fairly mild temperatures, and wind velocity and precipitation above normal. Except for brief periods when the ground was too wet to work, farming operations have been under way throughout the month. Work on the plots was begun about March 15, but progress has been slow as a result of frequent showers and snows. The preparation of land for small grains has been practically completed in the rotation field. Winter wheat and rye have grown slowly but steadily during the last two weeks, and many fields appear to be fully recovered from the injury caused by wind and dry, freezing weather during the latter part of February. Cutworms of the Army type are numerous this spring, and it is reported that considerable damage has been done by them to winter wheat in some localities. The worms do not appear to be present in the seeded plots on the station but have been found in some of the fallow and stubble plots. Poisoned bran was scattered over areas having the heaviest infestation as a means of controlling the pest.

Maximum temperature, 72°; minimum, 40; precipitation, 1.60 inches.

SHERIDAN:

Temperatures for March were much above the average for the first half of the month, but for the last half they were more nearly normal. The mean temperature for the entire month was about 3° above the station average, the least variation above the average for any month since September. Precipitation was recorded on 17 days, 10 days during the last half of the month, but in only one instance was precipitation at one time sufficient to be of consequence. Wind movement was high for the first half of the month, with much more soil blowing on the station than for several years. Winter wheat in the varieties apparently was damaged some by blowing. For the entire month wind movement was only slightly above the average. Field work of some kind was possible for short periods throughout the most of the month. Russian thistles were cleared from some fields, and some plowing was done on miscellaneous fields the first half of the month. Spring plowing in the rotations for small grain and flax was completed the 31st. On much of the land plowed early in the month and on many of the rotation plots plowed the last of the month, the plow rode on dry dirt at the bottom of the furrow. The first date of seeding wheat, oats, and barley was sown the 27th. Sows pigged from the 12th to the 16th. Litters were small. Lambing has been in progress since the 8th, with a few ewes left to lamb.

Maximum temperature, 70°; minimum, 3°; precipitation, 1.04 inches.

MANDAN:

Agronomy: Temperatures during March were slightly above normal. The fore part of the month was very mild, and field work would have been possible on several days. The latter part of the month was colder with several days of light precipitation in the form of rain and snow. The winter has been very dry with prospects for spring seeding unfavorable. Precipitation during the past few days has improved conditions markedly. No field work on the rotations has been done to date. During the grazing season of 1933 the steers in the larger pastures, which furnished plenty of feed, made normal gains for the season. The same results were true for 1926 which was also a very dry season. The total precipitation for the first three months of the year amounted to 0.69 of an inch compared with the 20-year average of 1.46 inches and with 2.59 inches in 1933.

Maximum temperature, 69°; minimum, -6°; precipitation, 0.58 inch.

Horticulture: The tubbed fruit trees blossomed quite profusely in the greenhouse this year, and a large amount of crossing work was done from about the 1st to the 20th of the month. It now appears that fair to good sets of fruit will be obtained. As in past years, the bulk of the crossing work was done with different varieties of apples, plums, and cherries. Potatoes have been sorted over. They developed a considerable amount of dry rot in storage this year. It is as yet too early to determine the amount of winter injury, but considerable browning of wood is noticed. The amount of early spring precipitation seems to have considerable effect on the ultimate amount of killing back. Pruning of fruit trees in the field will start as soon as weather conditions permit. Seeds of vegetables for the acre garden, such as cabbage, cauliflower, tomato, eggplant, pepper, and celery, were planted March 15. Tomato selections for the breeding project were planted March 26. Bedding plants such as cannas and geraniums were potted during late February and early March. Hotbeds and cold frames have been prepared in readiness for transplanting of started plants. The winter season in general was unusually mild, but the cold period in the latter part of March, combined with the dry condition of the soil, has retarded plant growth, and so far there is no sign of bud-swelling of any kind.

BELLE FOURCHE:

Typical March weather prevailed throughout most of the month. Sudden changes from one extreme in temperature to another were common occurrences, but the first three weeks as a whole, were considerably warmer than the last 10 days. The mean temperature was 1° above normal. Some rain and a number of light snows were received. Precipitation was recorded on 14 days, and the total was 0.31 inch greater than the 20-year average. Moisture had penetrated the surface soil to a depth of about 3 inches early in the month, and some germination of winter wheat seed took place before growth was retarded by cold weather. Brome-grass, and winter grain which emerged in the fall, resumed growth before March 15, but further development was stopped by cold weather. The buds on some of the trees and shrubs began to swell during several of the unusually warm periods, and apparently more or less damage was done by zero temperatures on March 9, 16, and 29.

Maximum temperature, 69°; minimum, -2°; precipitation, 1.03 inches.

ARCHER:

During March the weather was unusually favorable for outside work notwithstanding a considerable number of light squalls. Precipitation occurred on 15 days, Owing to the precipitation during February and the mild weather during March, the grasses and winter cereals have made unusual growth. The winter wheat seeded on land which was in drilled crops last season has revived, and that seeded on corn and fallow ground is about 3 inches high. In places Western wheatgrass and native June grass have made sufficient growth to give the prairies a shade of green. The soil was in excellent condition for tillage, therefore, all plowing in the rotation plots and practically all plowing and duckfooting in the experimental field was accomplished. There remains about a half day's plowing in the field that is to be seeded to corn silage. C.W.A. work continued throughout the month. Aside from the fence, road, and building repair work, the pit for a potato cellar was practically completed.

Maximum temperature, 67°; minimum, 9°; precipitation, 0.35 inch.

NORTH PLATTE:

The mean temperature for March was 39°, which is 2.3° above normal. Precipitation on six days totaled only 0.36 inch, a deficit of 0.50 inch for the month and making the deficit for the first three months of the year 0.85 inch or 47 per cent. High winds were frequent, which is normal. Field work was begun on the 9th. There were numerous interruptions on account of low temperatures, but seedings were made somewhat in advance of the average dates. Spring wheat was seeded on the 12th, oats and barley on the 19th and 20th. Wheat was nicely sprouted at the close of the month but had not emerged. Winter wheat, except that on fallow, is showing need of moisture, but the March 31 survival is practically 100 per cent. On fallow, tillering has been profuse and the stands completely cover the ground. Fallows contain available moisture the entire 10 feet of sampling depth. On March 20, live wheat roots were found in the eighth foot. This would indicate that the plants will allow little of the available moisture to be unused.

AKRON:

March was rather typically blustery this year with either rain or snow on 14 of the days. Temperatures were relatively high. Winter wheat has been actively growing and looks to be as far advanced as it normally is by May 1. Flynn barley seeded for increase purposes on fallow land March 5 was fully emerged by April 1. If present growth activity continues, there may be real danger of winter wheat jointing before the danger of damagingly cold weather has passed. Soil preparation for the early spring seeded small grains on the rotation block was started March 15. Peas and barley were seeded the 19th, spring wheat the 20th, and oats the 22nd. Ground in Forestery Experiment No. 1 cleared of dead trees last fall by NRA workers was plowed preparatory to fallo ing this summer. Cereal variety small grains were seeded near the end of March.

Maximum temperature, 73°; minimum, 10°; precipitation, 0.36 inch.

COLBY:

March was a month of varied and generally unsettled weather. High winds with more or less soil blowing were frequent. A driving north wind accompanied by a severe freeze on the night of the 16th destroyed many fields of late wheat and turned the tips of the early wheat whitish. Precipitation was recorded on seven days, but the amounts were small. The winter wheat plots are all looking good, except on milo, bean, and corn ground. After milo and beans the wheat did not show a stand until this spring, and the plants have not stooled any. On corn ground much of the wheat dried out during the fall and winter, so that the stands are very spotted. The spring small grains and the peas were seeded March 20. They have not come through the ground yet, but have begun to sprout. There was ample, but not abundant moisture in the seed bed at seeding time.

Maximum temperature, 79°; minimum, 7°; precipitation, 0.51 inch;
precipitation January - March, 1.44 inches.

HAYS:

The first half of the month was generally favorable for early spring tillage work and seeding. The last half of the month was generally disagreeable, because of heavy winds and variable temperatures, ranging from 7° to 82°. A heavy south wind prevailed throughout the day of the 16th with a maximum temperature above 75° for six hours which was followed by a drop in temperature to 15° the 17th and to 7° the 18th. An extremely heavy north wind prevailed throughout the day of the 17th. The heavy whipping of the warm south wind the 16th, and the heavy north wind accompanied by the low temperature all day the 17th killed a large part of the top growth of the wheat and made it look bad for a few days, but in this locality it has recovered. The remainder of the month was characterized by frequent heavy winds from either north or south. Soil movement was started in localities where precaution had not been taken to have top soil in condition to resist the soil movement. Some soil movement started on the 17th on plots in rotations 65 and 66 being fallowed for kafir and milo, and on wheat plots in the same rotations where wheat was sown on sorghum stubble. A small amount of the soil drifted from these plots into wheat and stubble plots on the west side of blocks 9 to 13 in field C, but before serious damage had been done the soil movement was arrested by cultivating the fallow plots and roads in that part of the project and by running a few furrows through the wheat sown on sorghum row crop stubble in rotations 65 and 66 where the trouble originated. Except for this corner, the Dry Land project remained where it belonged, due to the fact that most of the roadways had been puddled by tramping with horses while the ground was muddy after the 2-inch rain December 1, all alleys through the project had been furrowed early in

March to guard against blowing, and all unseeded plots that showed symptoms of soil blowing had been plowed or furrowed by cultivating. But for these preventative measures, the project would have been seriously damaged by soil blowing. Upon several occasions the air was filled with moving soil from other fields, some of which settled on the dry land plots until some of the drill furrows made by spring seeding are nearly filled with blow soil. Spring wheat was seeded March 12, and barley, oats, and peas March 13. Seedbed condition was generally very good, and at this time the spring wheat, barley, and oats are coming up and it looks as if an excellent stand will result. The peas are a little slower. It appears the freezing weather since seeding has caused no injury to any of the spring seeded crops. Maximum temperature, 82°; minimum, 5°; precipitation, 0.45 inches, all in the form of snow.

TUCUMCARI:

March was marked by extreme drought, low wind movement, and normal temperatures. A heavy snow to the south and east near the close of the month provided from 0.5 to 2 inches precipitation to localities from 50 to 150 miles from Tucumcari. Wheat prospects in the Panhandle were greatly improved by this moisture. It is now thought by many that half an average wheat crop is possible over the Panhandle. Precipitation since November 30 totals 0.23 inch, with the total for the past seven months, September to March inclusive, only 1.60 inches. Field work has not been begun, with the exception of some cultural work to prevent soil movement. Work of this nature has been less than usual, due to very few windy days. Pruning vineyards, building fence, repairing old fences, and miscellaneous repair work have been performed this month. Drilling of the station well has been progressing with difficulties, with delay due to ordering of additional casing. The depth is now 256 feet. Water veins encountered were too weak to warrant completion of the well, necessitating deeper drilling. Good planting seed is very scarce this spring, with prospects for heavy demand. Ranges are fair, with livestock in fair condition. Several peach trees were blooming March 24--28 when temperatures reached a low of 25° with a maximum of 31° or below for 36 hours. Apparently a considerable number of blooms were not injured. Soil moisture samples taken to a depth of 4 feet show the soil extremely dry. Moisture samples in Chinese elm rows range from 4.0 to 7.3 per cent. Vineyard moisture from 6.0 to 8.9 per cent, and in the orchard a low of 3.1 per cent and a high of 11.7 per cent was obtained from the first and third foot respectively 10 feet from a large apple tree.

Maximum temperature, 85°; minimum, 15°; precipitation, 0.08 inch.

DALHART:

The drought continues. Likewise the soil blowing and sand drifting becomes of rather frequent occurrence. While it is hard to definitely name the days upon which soil blowing was the worst, the blowing was unusually severe on March 17, 29, and 31. The drifting on to the station has largely been confined to fence rows. The soil just the last week of the month has started drifting around the buildings and shrubbery. The station fields have not blown severely. The south field shows practically no damage. The north field, and the west field has also to a less extent, have been damaged by sand blowing across. Winter rye seeded on all areas except rotations has assisted materially in preventing soil blowing. A high wind of almost hurricane proportions the evening of the 29th is quite generally granted to be the worst sand storm and the highest wind velocity, for a short period of time, which this country

has experienced in the past forty years.

Maximum temperature, 81°; minimum, 9°; precipitation, 0.07 inch.

BIG SPRING:

Weather conditions during the past month have been very mild in all respects. Only on a few days did the minimum drop below freezing with a low of 23° for the month. Many peach and plum varieties were in blossom at that time, but only a small percentage were killed. The temperature remained below freezing for such a short time that it is probable that this held the damage to a minimum. A good rain totaling 1.50 inches was received on March 25. Many farmers started planting feed and cotton as soon as the fields dried off enough, although the soil is still cold. They remember the sad experience of last year when they had sufficient moisture for seed germination early in the season. They waited for the soil to warm up. It did not rain in certain sections of the county until late in August, and as a result about 40 per cent of the farmers missed a cotton crop last year. Station work has consisted of pruning shrubs, shade trees and the orchard. Considerable spring plowing and listing was done, and many listed plots were leveled. Replacements were made in the varietal spacing test with evergreens, good stands were obtained the past year with the arborvitae, redcedars, and Austrian pines; but replacements were pretty heavy with the Ponderosa pines, Scotch pines and the Arizona cypress. W. H. Black, Bureau of Animal Industry, was a station visitor during the month.

Maximum temperature, 91°; minimum, 23°; precipitation, 1.50 inches.

LAWTON:

March temperatures ranged from a minimum of 21° on the 10th to a maximum of 88° on the 21st, and the monthly mean of 48.5° was only 2.5° below the 16-year average. Freezing temperatures on the 10th, 18th, and 30th did not do much injury to fruit, wheat, winter oats, winter barley, sweet clover, and alfalfa. Some seedings of spring oats were temporarily injured by these freezes. Wheat, winter barley, and winter seedings of oats are growthy and appear to be in excellent condition. A good many of the wheat varieties show some freeze injury on the leaf tips only. Leaf rust is also present in most of the varieties. Adult chinch bugs that emerged from winter hibernation are well distributed in the small grains. Rotation plots of oats were reseeded March 16 and good stands were obtained. Spring seeding of oats on the surrounding farms have developed slowly and stands are quite uneven, some very thin. Sweet clover planted in paired rows in rotations 133 and 134 and drilled alfalfa in rotation 142, planted March 15, are emerging to very good stands. Paired rows of sweet clover planted on a block of terraced land is also making a very satisfactory emergence. Rotation plots of corn were planted March 29. Early spring moisture conditions have been very good, and farm work in general appears to be well advanced.

Precipitation: March, 1.46 inches; January - March, 4.81 inches.

WOODWARD:

March was mild and open with but very few high winds. Because the soil has a good covering of wheat, winds have caused little damage. Wheat made a very heavy growth during the fall where soil had moisture, because the fall was warmer than usual. As a result all moisture was exhausted by the middle of March and the wheat was dying. However, precipitation of 0.92 inch, coming nicely over the 26th and 27th and 0.26 inch on the 30th has saved the wheat for the present. The winter has been so mild that many plants which usually kill to the ground with the first severe freeze are still alive.

The high temperatures have caused peaches and apricots to bloom earlier than usual, so this year again there will be none of these fruits, if usual late frosts occur. However peach blossoms, many of them fully open, are not yet killed. Chinese elms bloomed early in February, and there will be about a 1 per cent crop of seed. Most of the work of the month has consisted of digging and packing nursery stock for shipment to cooperators.
Maximum temperature, 82°; minimum, 15°; precipitation, 1.60 inches.

PENDLETON: (Report for the months of February and March)

Temperatures during February and March were well above the average for these months. No snow fell during the two months, and conditions for field work were ideal. Many farmers started spring seeding operations February 1, and the majority were through by February 25. The fall sown wheat is about one month in advance of its normal condition. All spring sown crops on the station have emerged with good stands. The rush of spring work has been completed as the plowing, seeding, and harrowing are finished. On account of scant snowfall in the Blue Mountains this winter, the irrigation projects face a shortage of water during the latter part of the summer.

February: Mean temperature, 41.3°; maximum, 62.0°; minimum, 23.0°; precipitation, 0.72 inch.

March: Mean temperature, 48.4°; maximum, 73.0°; minimum, 21.0°; precipitation, 1.21 inches.

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